

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

- 1 1. (Previously Presented) An integrated circuit, comprising:
 - 2 a lead frame having a plurality of leads, each one of the leads having a respective length;
 - 3 a current conductor portion comprising a coupling of at least two of the plurality of leads;
 - 4 a substrate having first and second opposing surfaces, the first surface proximate to said
 - 5 current conductor portion and the second surface distal from said current conductor portion; and
 - 6 one or more magnetic field transducers disposed on the first surface of said substrate,
 - 7 wherein each one of the leads has a bend in a direction selected to result in each one of the leads
 - 8 being closer to the first surface of the substrate than to the second surface of the substrate
 - 9 throughout the length of the lead.
- 1 2. (Cancelled)
- 1 3. (Cancelled)
- 1 4. (Withdrawn) The integrated circuit of Claim 1, wherein said current conductor portion
2 further comprises a conductive clip coupled to the at least two of the plurality of leads.
- 1 5. (Withdrawn) The integrated circuit of Claim 4, wherein said substrate is disposed having the
2 first surface of said substrate above said conductive clip and the second surface of said substrate
3 above the first surface.
- 1 6. (Withdrawn) The integrated circuit of Claim 4, wherein said substrate is disposed having the
2 first surface of said substrate below said conductive clip and the second surface below the first
3 surface.

- 1 7. (Withdrawn) The integrated circuit of Claim 4, wherein a thickness of the conductive clip is
2 selected in accordance with a current passing through the conductive clip.
- 1 8. (Withdrawn) The integrated circuit of Claim 1, wherein said substrate has at least one
2 bonding pad coupled to a corresponding one of the plurality of leads with a bond wire.
- 1 9. (Currently Amended) The integrated circuit of Claim 1, wherein said substrate is coupled to
2 said lead frame with a selected one of a solder ball, a gold bump, a eutectic and high lead solder
3 bump, a no-lead solder bump, a gold stud bump, a polymeric conductive bump, or an anisotropic
4 conductive paste, ~~or a conductive film~~ coupled to a corresponding one of the plurality of leads.
- 1 10. (Original) The integrated circuit of Claim 1, wherein the current conductor portion has a
2 current conductor portion axis and at least two of said one or more magnetic field transducers are
3 disposed on opposite sides of the current conductor portion axis.
- 1 11. (Original) The integrated circuit of Claim 1, wherein at least two of said one or more
2 magnetic field transducers are rotated relative to each other for providing predetermined voltage
3 output polarities.
- 1 12. (Original) The integrated circuit of Claim 1, wherein at least a portion of said current
2 conductor portion has a T-shaped cross section.
- 1 13. (Original) The integrated circuit of Claim 1, wherein at least a portion of said current
2 conductor portion has a rectangular cross section having a minimum dimension less than a
3 thickness of said lead frame.
- 1 14. (Original) The integrated circuit of Claim 1, further comprising at least one amplifier
2 disposed on said substrate.

1 15. (Original) The integrated circuit of Claim 14, wherein the at least one amplifier provides an
2 output signal proportional to a sum of signals generated by at least two of said one or more
3 magnetic field transducers.

1 16. (Original) The integrated circuit of Claim 14, wherein the at least one amplifier forms a
2 summing arrangement coupled to four of said one or more magnetic field transducers.

1 17. (Original) The integrated circuit of Claim 1, further comprising a flux concentrator disposed
2 proximate said one or more magnetic field transducers.

1 18. (Original) The integrated circuit of Claim 1, further comprising a flux concentrating layer
2 disposed proximate the second surface of said substrate.

1 19-24. (Canceled)

1 25. (Previously Presented) An integrated circuit, comprising:
2 a lead frame having a plurality of leads;
3 a current conductor portion comprising a coupling of at least two of the plurality of leads,
4 at least a portion of the current conductor portion having a cross section with a predetermined
5 shape selected to provide an increased flux density;
6 a substrate having first and second opposing surfaces, the first surface proximate to said
7 current conductor portion and the second surface distal from said current conductor portion; and
8 one or more magnetic field transducers disposed on the first surface of said substrate.

1 26. (Previously Presented) The integrated circuit of Claim 25, wherein the cross section is
2 generally T-shaped.

1 27. (Previously Presented) The integrated circuit of Claim 25, wherein the cross section is
2 generally rectangular having a smallest dimension less than a thickness of said lead frame.

1 28. (Previously Presented) The integrated circuit of Claim 25, wherein each one of the leads
2 has a bend in a direction selected to result in each one of the leads being closer to the first surface
3 of the substrate than to the second surface of the substrate throughout a length of the lead.

1 29. (Currently Amended) An integrated circuit, comprising:
2 a lead frame having a plurality of leads;
3 a current conductor portion comprising a coupling of at least two of the plurality of leads,
4 wherein the current conductor portion comprises a loop having an inner dimension;
5 a substrate having first and second opposing surfaces, the first surface proximate to said
6 current conductor portion and the second surface distal from said current conductor portion; and
7 one or more magnetic field transducers disposed on the first surface of said substrate and
8 proximate to the loop such that the one or more magnetic field transducers are responsive to a
9 current flowing through the loop.

1 30. (Previously Presented) The integrated circuit of Claim 29, wherein at least one of the one
2 or more magnetic field transducers is disposed within the inner dimension.

1 31. (Previously Presented) The integrated circuit of Claim 29, wherein at least a portion of
2 said current conductor portion has a generally T-shaped cross section.

1 32. (Previously Presented) The integrated circuit of Claim 29, wherein at least a portion of
2 said current conductor portion has a generally rectangular cross section having a smallest
3 dimension less than a thickness of said lead frame.

1 33. (Previously Presented) The integrated circuit of Claim 29, wherein each one of the leads
2 has a bend in a direction selected to result in each one of the leads being closer to the first surface
3 of the substrate than to the second surface of the substrate throughout a length of the lead.

1 34-35. (Canceled)

1 36. (New) The integrated circuit of Claim 1, further including a solder ball disposed to
2 electrically couple said substrate to said lead frame.

1 37. (New) The integrated circuit of Claim 1, further including a stud bump disposed to
2 electrically couple said substrate to said lead frame.

1 38. (New) The integrated circuit of Claim 1, wherein said current conductor portion has an
2 edge bounding a surface of said current conductor portion, and wherein said one or more
3 magnetic field transducers are disposed on the first surface of said substrate proximate to said
4 current conductor portion and in a position such that neither the edge of said current conductor
5 portion nor the surface of said current conductor portion overlaps said one or more magnetic
6 field transducers.